

WHAT IS CLAIMED IS:

1. A method comprising:
forming a tungsten plug in a dielectric layer;
forming an electrically conductive interconnect line on the dielectric layer after
formation of the tungsten plug, wherein the tungsten plug is electrically
connected to the electrically conductive interconnect line;
introducing a gas into a liquid;
contacting the electrically conductive interconnect line with the gas introduced liquid
after formation of the electrically conductive interconnect line.
2. The method of claim 1 wherein the gas comprises carbon dioxide.
3. The method of claim 1 wherein the pH of the liquid is reduced by introducing
the gas into it.
4. The method of claim 1 wherein the gas introduced liquid has a pH that is less
than neutral.
5. The method of claim 4 wherein the pH of the gas introduced liquid is greater
than 3.
6. The method of claim 1 wherein the liquid is made more electrolytic by
introducing the gas into it.
7. The method of claim 1 wherein the liquid comprises water.
8. The method of claim 7 wherein the liquid is deionized before the gas is
introduced into it.
9. The method of claim 1 further comprising contacting the electrically
conductive interconnect line with a solution to remove residual polymer after the electrically
conductive interconnect line is contacted with the gas introduced liquid.

10. The method of claim 1 wherein contacting the electrically conductive interconnect line with the gas introduced liquid comprises spraying the electrically conductive interconnect line with the gas introduced liquid.

11. The method of claim 1 wherein introducing the gas into the liquid further comprises:

the gas flowing into a first chamber;

the liquid flowing into a second chamber, wherein the first and second chambers are separated by a porous membrane;

the gas flowing into the first chamber passing into the second chamber via the porous membrane and dissolving into the liquid in the second chamber.

12. An integrated circuit (IC) partially formed by:

forming a tungsten plug in a dielectric layer;

forming an electrically conductive interconnect line on the dielectric layer after formation of the tungsten plug, wherein the tungsten plug is electrically connected to the electrically conductive interconnect line;

contacting the electrically conductive interconnect line with a liquid after a gas is introduced into the liquid, wherein the electrically conductive interconnect line is contacted with the gas introduced liquid after formation of the electrically conductive interconnect line.

13. The integrated circuit of claim 12 wherein the wherein the gas comprises carbon dioxide.

14. The integrated circuit of claim 12 wherein the liquid has a pH that is less than neutral.

15. The integrated circuit of claim 14 wherein the pH of the liquid is greater than 3.

16. The integrated circuit of claim 12 wherein the liquid comprises water.

17. The integrated circuit of claim 16 wherein the liquid comprises deionized water.

18. The integrated circuit of claim 12 further formed by contacting the electrically conductive interconnect line with a solution to remove residual polymer after the electrically conductive interconnect line is contacted with the gas introduced liquid.

19. The integrated circuit of claim 12 wherein contacting the electrically conductive interconnect line with the gas introduced liquid comprises spraying the electrically conductive interconnect line with the gas introduced liquid.

20. An apparatus comprising:

a first chamber for receiving a gas;

a second chamber for receiving a liquid;

a porous membrane separating the first and second chambers, wherein the porous membrane is configured to pass the gas from the first chamber into the second chamber so that the gas can dissolve into the liquid;

a tube coupled between the second chamber and a nozzle, wherein the tube is configured to transmit the liquid with the gas dissolved therein;

a substrate comprising:

a tungsten plug formed in a dielectric layer, and;

an electrically conductive interconnect line formed on the dielectric layer, wherein the tungsten plug is electrically connected to the electrically conductive interconnect line;

wherein the substrate is positioned relative to the nozzle so that the liquid, with the gas dissolved therein, transmitted through the tube and nozzle emerges from the nozzle and contacts the electrically conductive interconnect line.